

Oxford University Scientific Society — Michaelmas Term 2012

“A new food group to improve physical performance and cognitive function: Helping human health”

Professor Kieran Clarke, University of Oxford — Wednesday, 10th October 2012 at 8.15pm in the Inorganic Chemistry Lecture Theatre on South Parks Road

Kieran Clarke is a Professor of Physiological Biochemistry and a British Heart Foundation Principal Scientist in the Department of Physiology, Anatomy and Genetics at the University of Oxford. Dr Clarke will be talking about her work on a new fuel source for the human body, ketone bodies. These chemicals are present in our bodies already; they are made by the liver from fat when glucose is in short supply. But, until now, they have not been considered a fuel source. When properly prepared, ketone bodies can be chewed to provide energy for athletes and to fuel brain functions. They may even help Alzheimer's and Parkinson's disease patients and people with diabetes.

“Short Cuts: Anecdotes from a Research Career”

Professor Ian Fleming, University of Cambridge — Wednesday, 17th October 2012 at 8.15pm in the Inorganic Chemistry Lecture Theatre on South Parks Road

Professor Fleming is an emeritus professor of chemistry at Cambridge University, and he has had a prolific career including making major contributions to the use of organosilicon in chemical synthesis. He determined the complete structure of chlorophyll in 1967 and synthesized Vitamin B12 along with R.B. Woodward at Harvard University before being made a Fellow of the Royal Society in 1993. Chemistry students will probably recognize his notable textbooks on organic synthesis and frontier molecular orbital theory.

“The Geek Manifesto (A panel discussion)”

Mark Henderson, George Monbiot and Tracy Brown as a Panel Discussion — Wednesday, 24th October 2012 at 7pm in the Martin Wood lecture theatre on Parks Road (note the new place and time)

Mark Henderson is the Head of Communications at the Wellcome Trust, and he authored *The Geek Manifesto*. George Monbiot is a writer known for his environmental and political activism. Tracy Brown is the managing director of Sense about Science. These specialists will participate in a panel discussion about how geeks everywhere should get involved in politics to change policy.

“Energy for all—but from where?”

**Lord Ronald Oxburgh, UK House of Lords — Wednesday,
31st October 2012 at 8.15pm in the Inorganic Chemistry
Lecture Theatre on South Parks Road**

Lord Ronald Oxburgh, member of the House of Lords, will talk about how our world may change for the better due to small groups of people with limited budgets practicing innovative engineering and science in Britain and Asia-Pacific.

He is also a member of the Science and Engineering Research Council, the Natural Environment Research Council, and the Advisory Council for Science and Technology. He is a graduate of the Universities of Oxford and Princeton. Also, he has taught geology and geophysics at the Universities of Oxford and Cambridge. He has been a visiting professor at Stanford University, the California Institute of Technology and Cornell University. More interestingly, he is 78 years young and still enjoying orienteering.

**“MASER (microwave LASER) working at room
temperature—for the first time”**

**Dr Mark Oxborrow, National Physical Laboratory —
Wednesday, 7th November 2012 at 8.15pm in the Inorganic
Chemistry Lecture Theatre on South Parks Road**

Dr Mark Oxborrow created the first working MASER at room temperature using spare chemicals, a laser bought on eBay and angst from a late-night argument. He will be discussing how a MASER delivers a concentrated beam of microwaves and how this could revolutionise micro-electronics.

“Reading the body language of engagement”

**Dr Harry Witchel, Brighton and Sussex Medical School —
Wednesday, 14th November 2012 at 8.15pm in the Inorganic
Chemistry Lecture Theatre on South Parks Road**

Dr. Harry Witchel is Senior Lecturer and Discipline Leader in Physiology. He will be tackling:

What do David Cameron, a Middle Eastern bazaar and a woman batting her eyelids all have in common? You need to read their body language in order to understand them. Election campaigning, haggling and flirting are all negotiations and they all begin with people saying the opposite of what they will do in the end. Although some people and some computers (and even one horse) seem to read body language incredibly accurately, the science behind understanding intrinsic communication is still not solved. Neither man nor beast (nor computer) can tell us how they arrive at their conclusions. In this talk Dr Harry Witchel psychobiologist who measures body language and a BBC body language expert shows some beautiful examples of how people express themselves with body language. Finally, a simple set of questions is presented for how we might be able to scientifically structure what we see so that anyone might be able to read these secret signals.

“Small RNA—the dark matter of genetics”

**Professor Sir David Baulcombe, University of Cambridge —
Wednesday, 21st November 2012 at 8.15pm in the Inorganic
Chemistry Lecture Theatre on South Parks Road**

Professor Sir David Baulcombe is Regius Professor of Botany in Plant Sciences at the University of Cambridge. The genome encodes for hundreds of non-coding small RNAs, and most remain functionally uncharacterised. These small RNAs participate with other non-coding RNAs to form the biological 'dark matter'. Sir David Baulcombe's investigation into this area led him to discover components that are common to both animals and plants and its significance beyond disease. In his current research, he continues to investigate the mechanisms and biological role of RNA silencing, and the potential of RNA to initiate transgenerational changes.

“Life in the Frozen State”

**Professor Lloyd Peck, British Antarctic Survey —
Wednesday, 28th November 2012 at 8.15pm in the Inorganic
Chemistry Lecture Theatre on South Parks Road—**LECTURE
POSTPONED** due to illness.**

Professor Lloyd Peck is a biologist studying giant sea spiders. They and other small animals grow far larger than usual in the extreme cold. Studies suggest that sea temperatures are rising, and Professor Peck investigates whether the animals he researches will be able to adapt and survive.